

# Mineral Industry Surveys

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## FLUORSPAR IN THE FIRST QUARTER 2005

Reported fluorspar consumption in the first quarter was 168,000 metric tons (t), about a 14% increase compared with the previous quarter and essentially unchanged compared with the figure for the first quarter of 2004. Consumption of fluorspar for hydrofluoric acid (HF) and aluminum fluoride was 147,000 t, about a 19% increase compared with the previous quarter and unchanged compared with the first quarter of 2004. Imports of fluorspar were 227,000 t, an increase of 76% compared with the previous quarter, and essentially the same as in the first quarter of 2004.

### Defense Stockpile

After canceling its March solicitation for offers for the sale of fluorspar, the Defense National Stockpile Center (DNSC) announced the issuance of a new solicitation in April for the sale of 10,000 short dry tons (SDT) of acid-grade fluorspar and 10,000 SDT of metallurgical-grade fluorspar. The announcement also stated that bid openings would be held on the fourth Tuesday of each month beginning May 10, 2005 (Talbot, 2005). On May 18, the DNSC announced the award of 10,444 SDT of acid grade from the New Haven, IN, depot and 3,904 SDT of metallurgical grade from the Marietta, PA, depot for a combined price of \$1.9 million. The award was made to Seaforth Mineral and Ore Co., Inc., Cleveland, OH (Ringquist, 2005).

### Industry News

Sallies Ltd., parent of South African fluorspar producer Witkop Mining (Pty.) Ltd., is in the process of renegotiating its supply contract with its largest customer, Honeywell International Inc. The original 5-year contract was negotiated in 2000 and capped the purchase price at an upper limit of \$116 per metric ton. Since then, however, world fluorspar prices have increased dramatically. More importantly for Sallies, the Rand has appreciated by more than 75% against the dollar since late 2001, which has resulted (according to Sallies) in the company losing money on every ton of fluorspar shipped to Honeywell. In 2003-04, the Sallies undertook reorganization and expansion plans at Witkop to cut costs and increase production capacity, but renegotiation of the Honeywell contract

is of paramount importance to the future profitability of the Witkop fluorspar mine (Industrial Minerals, 2005b).

SC Mining Co. Ltd. is mining tungsten in northern Thailand from its Doi Ngom deposit, which contains fluorite as an accessory mineral (see Fluorspar in the Fourth Quarter 2004). It should be clarified that the company's current plan would include facilities to produce 5,000 metric tons per month of metallurgical grade for the local market and 3,000 metric tons per month of acid grade for export (not tons per year as originally reported) (Industrial Minerals, 2005a).

### Fluorochemical News

Solvay Solexis, the fluorinated materials business of Solvay S.A., announced the decision to launch two major capacity expansions in fluorinated polymers at its production facility in Spinetta Marengo, Italy. The planned investment includes a new polytetrafluoroethylene fine powders production unit and an additional PFA/MFA production line. PFA is perfluoroalkoxy, and MFA is a modified fluoroalkoxy similar to PFA designed for high-temperature applications in the chemical industry. The expansions are scheduled to be operational in 2007 (Solvay Solexis, 2005§<sup>1</sup>).

Dow Corning Corp. and Daikin Industries Ltd. have announced an agreement to collaborate in the exploration of new areas of fluorosilicone chemistry. Through this collaboration, the companies will globally develop, manufacture and sell fluorosilicone products for a broad range of markets and applications. The companies believe that fluorosilicone technology is capable of delivering to customers a wide range of benefits, including high- and low-temperature resistance; water and oil repellency; lubricity and flexibility; and easy-clean properties that may not be possible through silicone or fluorine chemistry alone (Daikin Industries, Ltd., 2005§).

The aluminum fluoride industry is under investigation for possible antitrust violations or anticompetitive conduct by industry suppliers. The U.S. Department of Justice, the Competition Bureau Canada, and the Australian Competition

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<sup>1</sup>References that include a section mark (§) are found in the Internet References Cited section.

and Consumer Commission have requested documents from at least some of the major aluminum fluoride producers (Dow Jones Newswires, 2005§).

### References Cited

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- Solvay Solexis, 2005 (May 12), Solvay Solexis expands fluoromaterials production to speed up growth, accessed June 6, 2005, at URL <http://www.solvaypress.com/pressreleases/0,,29076-2-0,00.htm>.

TABLE 1  
SALIENT FLUORSPAR STATISTICS<sup>1</sup>

(Metric tons, unless otherwise specified)

	2004					2005
	First quarter	Second quarter	Third quarter	Fourth quarter	Total	First quarter
Imports for consumption:	226,000	101,000	143,000	129,000	599,000	227,000
Average value per ton, c.i.f. U.S. port, acid grade	\$172	\$162	\$170 <sup>r</sup>	\$155	\$166	\$189
Average value per ton, c.i.f. U.S. port, metallurgical	\$83	\$75	\$81	\$83	\$82	\$91
Exports	6,800	5,100	4,670	4,050	20,600	5,480
End of quarter stocks, consumer	173,000	102,000	93,400	75,200 <sup>r</sup>	XX	129,000
Fluorspar equivalent of imported hydrofluoric acid	43,300	48,600	47,900	52,200	192,000	53,600
Fluorspar equivalent of imported cryolite	1,370	1,240	1,080	943	4,630	1,100
Quarterly reported fluorspar consumption	167,000	191,000	167,000	148,000	673,000 <sup>r</sup>	168,000

<sup>r</sup>Revised. XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2  
CONSUMPTION OF FLUORSPAR BY END USE AND ASSAY RANGE<sup>1</sup>  
(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

End use or product	Fourth quarter 2004			First quarter 2005		
	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total
Hydrofluoric acid and aluminum fluoride	124,000	--	124,000	147,000	--	147,000
Metallurgical	6,670 <sup>r</sup>	11,900 <sup>r</sup>	18,600 <sup>r</sup>	6,710	9,550	16,300
Other uses or products <sup>2</sup>	4,990 <sup>r</sup>	--	4,990 <sup>r</sup>	5,140	--	5,140
Total	136,000	11,900 <sup>r</sup>	148,000	158,000	9,550	168,000
Stocks, end of quarter <sup>3</sup>	59,500 <sup>r</sup>	15,700	75,200 <sup>r</sup>	116,000	12,500	129,000

<sup>r</sup>Revised. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes acid grade used in enamel, glass and fiberglass, steel castings, and welding rod coatings.

<sup>3</sup>Stocks data include distributor stocks (excluding National Defense Stockpile holdings) and consumer stocks for hydrofluoric acid and aluminum fluoride.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY AND VALUE<sup>1,2</sup>

	2004										2005	
	First quarter		Second quarter		Third quarter		Fourth quarter		Total		First quarter	
	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)
Containing more than 97% calcium fluoride:												
China	171,000	\$31,100	23,500	\$4,430	104,000	\$18,200	31,800	\$5,380	330,000	\$59,200	168,000	\$33,000
France	--	--	--	--	44	16	22	8	66	24	39	21
Germany	--	--	19	9	--	--	--	--	19	9	19	9
Mexico	16,100	2,020	27,100	4,210	17,900	2,900	18,100	2,960	79,300	12,100	12,200	1,790
Mongolia	--	--	13,400	2,210	10,800	1,570	24,900	3,910	49,200	7,690	10,100	1,650
South Africa	21,000	2,640	28,300	4,180	6,000	707	32,100	4,380	87,400	11,900	24,600	3,980
United Kingdom	4	5	--	--	9	17	507	60	520	82	--	--
Total	208,000	35,800	92,400	15,000	138,000	23,400	108,000	16,700	546,000	91,000	215,000	40,500
Containing not more than 97% calcium fluoride:												
Canada	7	3	--	--	--	--	6	2	13	5	34	12
Mexico	18,200	1,520	6,350	511	4,840	392	21,700	1,800	51,100	4,220	12,400	1,110
Other	--	--	1,880	102	--	--	--	--	1,880	102	--	--
Total	18,300	1,520	8,230	613	4,840	392	21,700	1,800	53,000	4,330	12,400	1,130
Grand total	226,000	37,300	101,000	15,700	143,000	23,800	129,000	18,500	599,000	95,300	227,000	41,600

-- Zero.

<sup>1</sup>Imports for consumption include imports of immediate entry, and warehouse withdrawals.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>Cost, insurance, and freight at U.S. ports.

Source: U.S. Census Bureau.

TABLE 4  
IMPORTS FOR CONSUMPTION OF HYDROFLUORIC ACID<sup>1</sup>

	2004										2005	
	First quarter		Second quarter		Third quarter		Fourth quarter		Total		First quarter	
	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)
Canada	9,780	\$11,700	11,900	\$12,400	13,200	\$13,700	10,700	\$11,000	45,500	\$48,700	7,940	\$8,270
China	116	89	514	319	261	198	59	55	950	661	126	91
Germany	64	120	45	88	61	139	91	193	261	540	45	117
Japan	347	816	214	530	420	1,000	391	961	1,370	3,310	227	564
Mexico	18,400	17,500	19,700	18,700	17,900	17,400	23,400	22,600	79,500	76,200	15,900	15,200
Other <sup>3</sup>	99	298	119	345	67	165	128	314	413	1,120	255	226
Total	28,800	30,500	32,400	32,400	31,900	32,500	34,800	35,100	128,000	131,000	24,500	24,500

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Cost, insurance, and freight at U.S. ports.

<sup>3</sup>Includes India, Italy, the Republic of Korea, the Netherlands, Singapore, Spain, Switzerland, and Taiwan.

Source: U.S. Census Bureau.